State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code_____
Other Listings_____
Review Code_____ Reviewer_____ Date_____

 Resource name(s) or number(assigned by recorder) N-227

P1. Other Identifier: Unitary Plan Wind Tunnel
***P2. Location:** ☒Not for Publication ☐Unrestricted ***a. County** Santa Clara
***b. USGS 7.5' Quad** San Francisco North, Calif. **Date:** 1995
***c. Address** 355 Boyd Rd. **City** Moffett Field **Zip** 94035
***e. Other Locational Data:**

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries.)

Building N-227 is an unpainted concrete laboratory and research building with a flat roof. The front façade faces north and is connected to N-227A and N-227B on the east and west sides. N-227C is located on the south side. The center bay provides the main entry and is three stories in height. It has recessed ribbon windows that run along each floor. The industrial steel windows are one over three and operate as awning windows. A concrete canopy steps out over the first floor windows to mark the entry doors. The overhang is greatest in depth over the entry doors and recedes on either side until it is flush with the face of the building. Narrow concrete columns on both sides of the entry support the canopy. The center bay is flanked by two-story wings on either side that step back. These wings have the same ribbon windows that run along each floor. At both the east and west ends of the wings, the façade steps out again where N-227 connects to N-227A and N-227B. At these ends, the fenestration occurs only along the first floor except for three slits of glass block windows that occur at the inside corners. Secondary entrances into the building are located at these ends. The back (south side) of the building is corrugated metal and consists of the 11-Foot Transonic Wind Tunnel and the 9- by 7-Foot Supersonic Wind Tunnel. See N-227A, N-227B and N-227C for additional information. This building appears to be in fair - good condition.

***P3b. Resource Attributes:** (list attributes and codes) HP 39– Other (Laboratory & Research)

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other

P5a. Photo

P5b. Photo: (view and date)
View of north façade (8/12/05)

***P6. Date Constructed/Age and Sources:** 1955

***P7. Owner and Address:**
United States of America as represented by National Aeronautics and Space Administration (NASA)

***P8. Recorded by:**
Page & Turnbull, Inc.
724 Pine Street
San Francisco, CA 94108

***P9. Date Recorded:** 08/12/05

***P10. Survey Type:**
Reconnaissance

***P11. Report Citation:** None

***Attachments:** ☐None ☐Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (list)

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 1S

*Resource Name or # N-227

B1. Historic name:
B2. Common name: Unitary Plan Wind Tunnel
B3. Original Use: Wind Tunnel B4. Present use: Wind Tunnel, laboratory, and office
***B5. Architectural Style:** Moderne
***B6. Construction History:** (Construction date, alterations, and date of alterations)
1950 to 1955 – Date of Construction

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:**_____ **Original Location:**_____
***B8. Related Features:**
Significant architectural features include the concrete exterior, concrete detailing, windows, and wind tunnels.

B9a. Architect: National Advisory Committee for Aeromautics (NACA) Engineers b. Builder:
***B10. Significance: Theme** Post-War Science and Space Exploration **Area** NASA Ames Research Center
Period of Significance 1940-1952 **Property Type** Wind Tunnel **Applicable Criteria** 1 & 3
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity)

Building N-227 houses the Unitary Plan Wind Tunnel facility, which is the most heavily used wind tunnel in all of NASA. Every major commercial transport and almost every fighter aircraft built in the United States over the last 50 years has been tested in these tunnels. In addition, models of the space shuttle and of the Mercury, Gemini, and Apollo capsules were tested here. More than 1,000 test programs have been conducted in these tunnels, totaling over 60,000 hours of operation. This building is listed in the National Register of Historic Places under Criteria A and C. As such, this building is automatically listed in the California Register of Historical Resources. Additionally, this building is listed as a National Historic Landmark. The statement of significance reads as follows:

> *Constructed in the early 1950s, this is a significant example of the research facilities created by the National Advisory Committee for Aeronautics (NACA), parent agency of the National Aeronautics and Space Administration (NASA). It was used extensively in designing new generations of commercial as well as military aircraft, and in testing NASA space vehicles, including the Space Shuttle.*

This building possesses integrity of location, design, setting, materials, workmanship, feeling, and association. It is still an active testing facility. For technical description, see Continuation Sheet.

B11. Additional Resource Attributes: (List attributes and codes) (HP39) -- Wind Tunnel

***B12. References (also refer to Continuation Sheets):**
- National Register of Historic Places nomination, *Unitary Plan Wind Tunnel* (October 3, 1985).

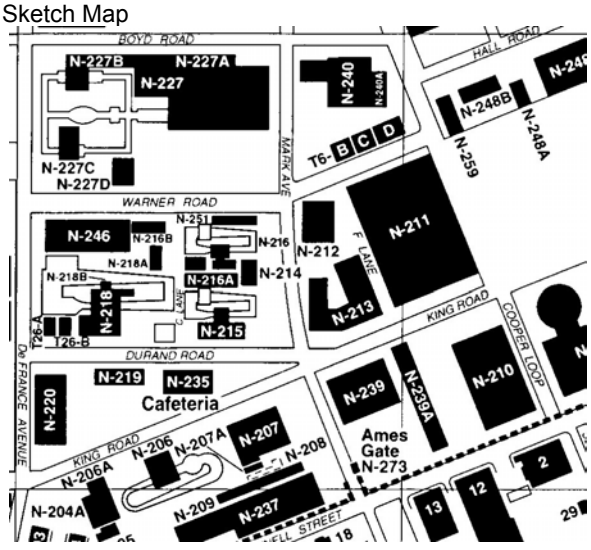
B13. Remarks:

***B14. Evaluator:** Rich Sucre
Page & Turnbull, Inc.
724 Pine Street
San Francisco, CA 94108

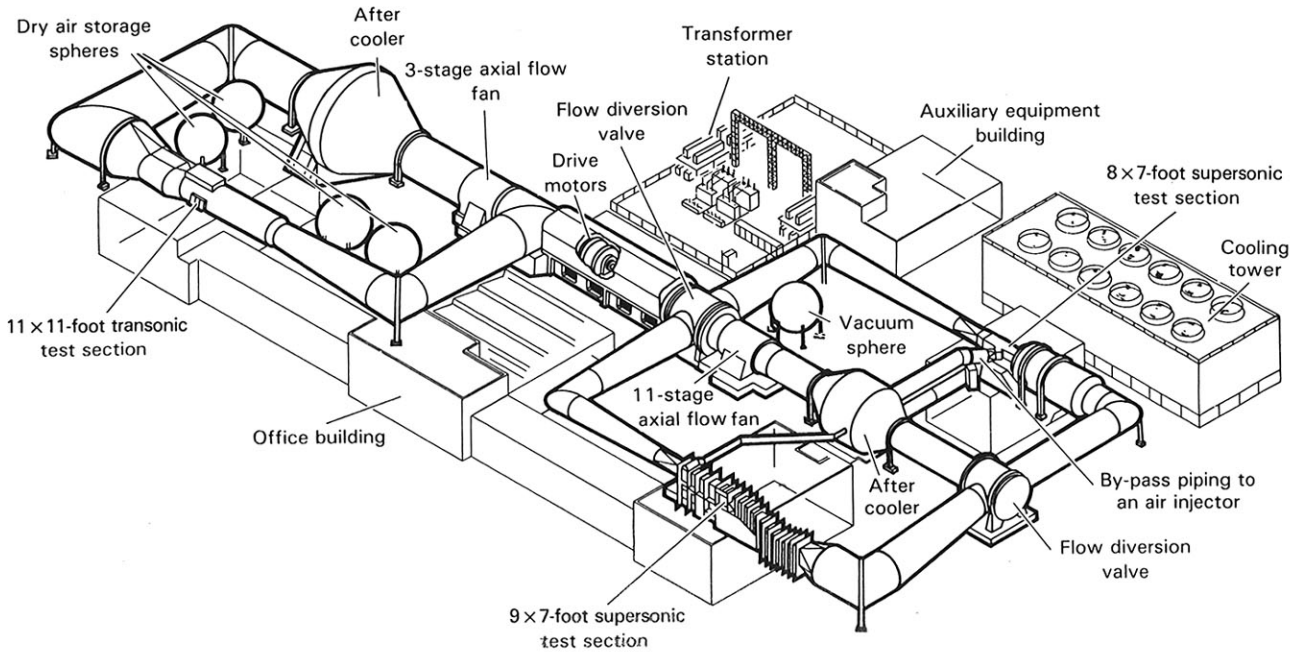
***Date of Evaluation:** 10/18/2005

(This space reserved for official comments.)

Sketch Map



N 227 UNITARY PLAN WIND TUNNEL



The Ames Unitary Plan wind tunnel actually consisted of three separate test sections fed by a centralized power source. One test section was transonic; the other two were supersonic.

***B12. References (cont'd):**

- National Aeronautics and Space Administration, *Technical Facilities Catalog*, Volume 1, publication NHB 8800.5A (1), October 1974.
- Technical Information Division, Ames Research Center, *Ames Research Facilities Summary,* 1974.
- Donald D. Baals and William R. Corliss, *Wind Tunnels of NASA,* NASA SP-440, 1981.